

Feeding trial

# Move to AGP-free feeding with HP AviStart



## Summary

Replacing part of soybean meal (SBM) with **HP AviStart** in starter diets, with or without antibiotic growth promoters (AGP) throughout the production cycle, equals the weight of *Clostridium perfringens* infected birds and their FCR to that of uninfected chickens. Furthermore, uninfected chickens receiving **HP AviStart** in the starter diets performed equivalent to chickens receiving AGP throughout the rearing cycle, and chickens receiving both performed even better.

## Objective(s)

The objective is to assess whether HP AviStart in AGP-free diets improves the performance of *Clostridium perfringens* infected/uninfected chickens.

## Results

- HP AviStart at 5% inclusion rate in starter diets balanced to be iso-nitrogenous on digestible AAs, reduced the diet content of trypsin inhibitor, stachyose + raffinose and beta-conglycinin by 7.1%, 15.5% and 16.4%, respectively, compared to SBM only, while securing AA requirements.
- No significant difference is observed on BWG day 0-42 in uninfected chickens.
- In uninfected chickens, mortality adjusted FCR is significantly improved by 2% by HP AviStart compared to SBM and is equal to that of AGP supplementation (figure 1).
- Among *C. perfringens* infected chickens, those fed HP AviStart gained 206 g more day 0-42 than those fed SBM ( $p < 0.05$ ), and their performance was equal to that of uninfected chickens (figure 2).
- Mortality adjusted FCR improves by 3% ( $p < 0.05$ ) by feeding *C. perfringens* infected chickens with HP AviStart compared to only with SBM, and is further improved by feeding HP AviStart + AGP. Furthermore, mortality adjusted FCR of infected chickens fed with HP AviStart is equal to that of uninfected, SBM-fed chickens (figure 3).

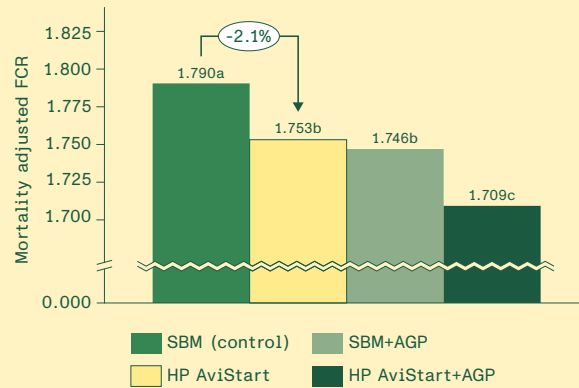


Image from Hamlet Protein database.  
Not specific for this trial.



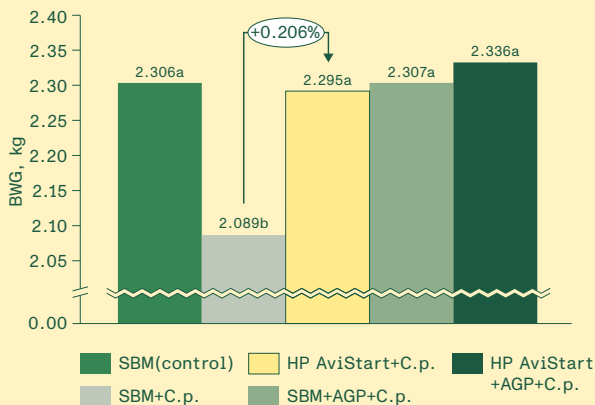
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### No need for AGP in uninfected birds when feeding HP AviStart to improve FCR



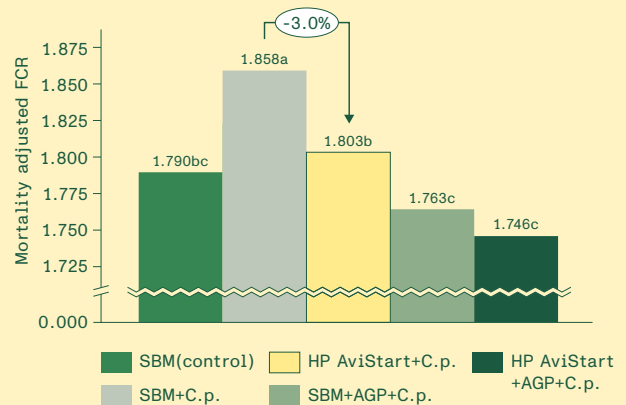
**Figure 1.** Mortality adjusted FCR for uninfected chickens receiving SBM or HP AviStart with or without AGP day 0-42. Different letters indicate significant difference ( $p < 0.05$ ).

### HP AviStart in starter diets equals the growth rate of *C. perfringens* infected birds to that of uninfected chickens



**Figure 2.** Body weight gain (BWG, kg) for uninfected chickens receiving SBM or *C. perfringens* (C.p.) infected chickens receiving SBM or HP AviStart with or without AGP day 0-42. Different letters indicate significant difference ( $p < 0.05$ ). C.p.: *Clostridium perfringens* challenge.

### HP AviStart equals FCR of *C. perfringens* infected chickens to that of uninfected chickens.



**Figure 3.** Mortality adjusted FCR for uninfected chickens receiving SBM or *C. perfringens* (C.p.) infected chickens receiving SBM or HP AviStart with or without AGP day 0-42. Different letters indicate significant difference ( $p < 0.05$ ). C.p.: *Clostridium perfringens* challenge.

## Materials and methods

1,600 day-of-hatch Cobb 500 male chickens.  
8 replicates/dietary treatment, 25 chickens/replicate.  
3×2 factorial design: *Clostridium perfringens* challenge (yes or no), HP AviStart in starter diet (0% or 5%) and in-feed AGP day 0-42 (0 ppm or 55 ppm), resulting in 8 treatments (table 2).

Starter, grower and finisher diets were formulated to contain 1.18%, 1.05% and 0.95% dLys, respectively.

### Location

Southern Poultry Feed and Research, Inc., US, 2019.

Treatment	<i>C. perfringens</i> challenge	HP AviSure day 0-14	AGP day 0-42
SBM (control)	No (uninfected)	0%	0 ppm
HP AviStart	No (uninfected)	5%	0 ppm
SBM+AGP	No (uninfected)	0%	55 ppm
HP AviStart+AGP	No (uninfected)	5%	55 ppm
SBM+C.p.	Yes (infected)	0%	0 ppm
HP AviStart+C.p.	Yes (infected)	5%	0 ppm
SBM+AGP+C.p.	Yes (infected)	0%	55 ppm
HP AviStart+AGP+C.p.	Yes (infected)	5%	55 ppm

**Table 2.** Experimental treatments.